Fig. 1

V3 loop sequence data of HIV-1 patient isolates (PI)

Fig. 2a

Amino acid sequences of the NL4-3 V2 loop and NL4-3 V3 loop. The regions which are preferably to be varied are underlined.

Fig. 2b

Variation of the V3 loop. Data from the Los Alamos database.

Fig. 4

Schematic representation of the process for the preparation of the mixture of gp 120-expressing plasmid vectors.

1.) Preparation of the degenerated DNA fragments for e.g. the V3 loop
   a.) Synthesis of single-stranded DNA
   b.) Hybridization of two complementary oligonucleotides.
2.) Cloning of the V3 loop DNA fragments into pUC18 delta *env*
3.) Cloning of the *env* gene into the gp 120 expression vector pBSCenvATG

V3 loop fragments with degenerated sequence e.g.:

Fig. 5

Heterogeneity of the vaccine using the V3 loop as an example

V3 loop sequence:

Degeneration at protein level:

variants

Degenerated DNA sequence of the respective variable amino acid positions:

variants

Variability at protein level derived from the degenerated DNA sequence:

EP 0 462 050 B1